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11/12/96

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:

November 12, 1996 SR-6J

John Seymour, P.E.
Woodward-Clyde Consultants
38777 W. Six Mile Rd., Ste. 200
Livonia, MI 48154

Re: Conditional Approval of the Pre-Design Studies Report, Albion-Sheridan Township Landfill Superfund Site

Dear Mr. Seymour:

I have reviewed the Pre-Design Studies Report and by this letter approve it, provided you submit replacement pages which address both the comments listed below and on the enclosed letter from the MDEQ. Regarding the MDEQ comments 4 through 7 which ask for Michigan Act 451, Part 201 standards to be listed, please note that these are being listed for informational purposes only and that the groundwater action criteria are those listed in the Record of Decision.

Page 1-2, Section 1.1.4, Ground water Sampling, second bullet: The Project Plans state that Eh will be measured in the field at the time of sample collection. Please indicate whether Eh was included in the measurement of field parameters and/or explain why it was not measured. ✓

Page 2-2, Section 2.1, Monitoring Well Installation, last paragraph: This paragraph states that details concerning well development were recorded in a bound field log book or on well data sheets. The well data sheets are enclosed in Appendix A of the report. If there are additional details documented in the bound field log book that are not on the well data sheets, copies of the log book should also be appended in the report or the information conveyed in some other format. ✓

Page 2-2, Section 2.2.1, Ground water sampling, second paragraph: Please describe the details regarding measurement of the field parameters. A description of the actual field methods used is necessary because the results can vary depending on how the results were obtained. In order to accurately compare the results of field measurements to previous or future results, the methods of obtaining the results must be consistent. For example, the values of dissolved oxygen or Eh measured inside of a well can be significantly different than the values obtained for ground water purged from the same well. ✓

Page 2-4, Section 2.4.1.1, Horizontal Extent of Waste: This Section indicates that the property southwest of the landfill was not accessed due to the proximity of the house. I assume this means that the test pits shown on Figure 6 in this area were not dug. Please clarify. ✓

Page 3-2, Section 3.2.1, Unconsolidated Sediment Monitoring Well Sampling (Table 2): This section references Table 2, which is a summary table for field measurements obtained from wells screened in the unconsolidated aquifer. Table 2 lists Dissolved Oxygen (mV) as well as % DO (DO presumably stands for dissolved oxygen). The values in these two columns do not correlate well with each other if both are actually measurements of dissolved oxygen. Furthermore, dissolved oxygen is not measured in millivolts (mV); however, the values for Eh are typically reported in mV. Was Eh measured? Please clarify.

no new table

ok?

Page 3-2, Section 3.2.2, Bedrock Monitoring Well Sampling (Table 3): Similar comment as above, regarding Table 3.

ok?

Page 4-4 1st complete paragraph, 1st sentence: The statement that the vegetative cover will consist of "shallow rooted grasses" is potentially misleading. All of the native grasses listed in section 4.1.5.2 will root to 5 feet or greater depths in favorable soils. However, these grasses are capable of establishing and maintaining themselves on shallow soils.

✓

Page 4-4 at bottom to top of p. 4-5: The total seeding rate for native grasses, 18 lbs/acre, is near the upper recommended range for prairie restoration in Rock (1981) -- Rock, H. 1981. Prairie Propagation Handbook. 6th ed. Wehr Nature Center, Whitnall Park, Hales Corners, WI, Milwaukee County Dept. of Parks, Recreation & Culture. 74 p.. However, this rate may be appropriate if forbs are not included in the mix. If forbs are to be included, the total native grass seeding rate should be closer to 10 or 12 lbs/acre, according to Rock. Also, the annual rye nurse crop seeding rate, 15 lbs/acre, may be overly high. Rock recommends 2 lbs/acre or less. We recommend you investigate this further.

✓

Page 4-2, Section 4.1.3, paragraph 2: We recommend you begin investigating sources for native grass seed in commercial quantities.

✓

Page 4-5, Section 4.2 Gas Emissions Study: General Comment -- As you begin the design, remember that homes are unusually close to this landfill and if there are odors or emissions concentrations above risk levels from a particular vent, that vent might be addressed on an individual basis.

Page 4-6, Section 4.2.2.1, last paragraph: Please indicate the reason for selecting the particular model and equation used for the study.

✓

Figures 2 through 5: The monitoring well labeled as MW04SG should be labeled MW04DB.

✓

Figure 3, Shallow Glacial Groundwater Contour Map, August, 1996: The water level for the MW04 well cluster location is probably from MW04SG(WB), which is screened in the weathered bedrock not the unconsolidated aquifer.

✓

Table 2, Unconsolidated Material Monitoring Well Field Parameter Summary: See the comment for Page 3-2, Section 3.2.1. Also, the data for MW04SG is likely for MW04SG(WB) which is screened in weathered bedrock not the unconsolidated material, and should be included on Table 3.

Table 3, Bedrock Monitoring Well Field Parameter Summary: See the comment for Table 2 above.

Table 4, Unconsolidated Material Monitoring Well Analytical Summary, Page 2 of 4: The data for monitoring MW04SG is likely for MW04SG(WB) which is screened in weathered bedrock not the unconsolidated material, and should be included on Table 5. There is a more current Drinking Water Regulations and Health Advisory. Please use it. Also, the MCL is not listed on the table for bis (2-ethylhexyl) phthalate.

Table 5, Bedrock Monitoring Well Analytical Summary: The data for monitoring well MW04SG(WB) should be included on Table 5. Also, the MCL is not listed on the table for bis (2-ethylhexyl) phthalate.

Appendix B, Table B-2: Please add bis(2-ethylhexyl) phthalate to this table.

If you have any questions about how to address any of these comments, please call me at (312) 886-4696.

Sincerely yours,

Leah Evison

Leah H. Evison
Remedial Project Manager
Enclosure
cc: Dean Stockwell, WCC/Minneapolis
Elizabeth Bartz, EarthTech
Kim Sakowski, MDEQ

STATE OF MICHIGAN

JOHN ENGLER, Governor

DEPARTMENT OF ENVIRONMENTAL QUALITY

HOLLISTER BUILDING, PO BOX 30473, LANSING MI 48909-7973

INTERNET: http://www.deq.state.mi.us

RUSSELL J. HARDING, Director

REPLY TO:

ENVIRONMENTAL RESPONSE DIVISION
KNAPPS CENTRE
PO BOX 30426
LANSING MI 48909-7926

November 7, 1996

Ms. Leah Evison
U.S. Environmental Protection Agency
Region 5
77 West Jackson Boulevard
Chicago, Illinois 60604

Dear Ms. Evison:

SUBJECT: Pre-Design Studies Report
Albion-Sheridan Township Landfill, Calhoun County, Michigan

The Michigan Department of Environmental Quality has reviewed the Pre-Design Studies report for the Albion-Sheridan Township Landfill Superfund site, dated October 17, 1996. Our comments are as follows:

1. **Section 1.2, Summary of Results, page 1-3**

   Please expand on the recommendation of where the wastewater will be disposed of on-site.

2. **Section 2.4, Waste Fill Area Characterization, page 2-3**

   Please included copies of field forms from the test pitting operations in an addendum to the report.

3. **Section 3.3, Analytical Results, page 3-2**

   There is no discussion of background contaminant levels, specifically inorganic chemicals, in this section. Please include a comparison of iron, manganese and arsenic concentrations in upgradient vs. downgradient groundwater.

4. **Section 3.3.1, Unconsolidated Sediment Monitoring Well Sampling Results, page 3-2 & Table 4**

   Please include Michigan Act 451, Part 201 cleanup standards to table 4 for comparison purposes.

5. **Section 3.3.1.2, Inorganic Analyte Analyses, page 3-3**

   The consultant states that there are no MCLs established for calcium, iron, potassium, magnesium, manganese, sodium and zinc. However, under the State of Michigan's Act 451, Part 201, cleanup standards have been set for iron, manganese, sodium and zinc. The plume from the landfill

appears to have contaminated the aquifer above the manganese and iron standards. Please include Part 201 cleanup standards and note the exceedances of the standards in the report.

6. **Section 3.3.2, Bedrock Monitoring Well Sample Results, page 3-3 and & Table 5**

Please include Part 201 cleanup standards in table 5 for comparison purposes.

7. **Section 3.3.2.2, Inorganic Analyte Analyses, page 3-4**

See comment number 4.

8. **Section 3.4, Groundwater Flow Characteristics, pages 3-4 & 3-5**

The consultant did not include any discussion as to why the groundwater at monitoring well MW6SG flows toward the northwest instead of to the south were the North Branch of the Kalamazoo River serves as the regional discharge point. There appears to be a dramatic shift in the groundwater flow direction in the shallow glacial aquifer and the shallow bedrock aquifer away from the regional discharge zone on the western side of the site. It appears that there is insufficient data to explain this departure from what would normally be expected. This is important because the inorganic plume that is originating from the northern portion of the landfill may not be migrating in the direction of the river. The monitoring well MW15, if installed, should help to address this concern. Please include a technical discussion in this section to point out the anomalous groundwater flow characteristics.

9. **3.5.1 Results, page 3-6**

Please revise the text in paragraph 3 to identify that the bottom extent of waste was located at four areas.

10. **Section 5, page 5-1**

Please include magnesium in the eighth bullet item, as one of the inorganic analytes detected above MCLs.

11. **Appendix B, Table B-2**

The MCL for magnesium should be 30 ug/L. Please revise the table to reflect this.

If you have any questions or would like to discuss anything included in this letter, please feel free to contact me.

Sincerely,

Kim Sakowski

Kim Sakowski
Superfund Section
Environmental Response Division
517-335-3391

c: **Albion-Sheridan file (L1)**